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09/898,269	07/03/2001	Timothy David Forrester	UTL 0081	2238

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EXAMINER	
IQBAL, KHAWAR	

ART UNIT	PAPER NUMBER
2686	

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/898,269	FORRESTER, TIMOTHY DAVID	
	Examiner	Art Unit	
	Khawar Iqbal	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-35 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. Claims 1,15,29,32,35 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,15,18,19 of U.S. Patent No. 6667723. Although the conflicting claims are not identical, they are not patentably distinct from each other, because the limitation of the claims of the instant application are broad enough to be encompassed by the claims of the patent and as such it would have been obvious to one of ordinary skill in the art at the time the invention the claims of the instant application, with the claims of the patent for the benefit of having a multimode communication device reduced circuitry.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 29 is rejected under 35 U.S.C. 102(e) as being unpatentable by Camp, Jr. et al (6097974).

3. Regarding claim 29 Camp, Jr. et al teaches a method for providing a global positioning system (914) enabled antenna (910), comprising the steps of (fig. 9):

providing an antenna (910) tuned to receive a wireless communications signal in a communications band (col.6, lines 54-57);

receiving at the antenna (910) a wireless communications signal (col. 6, lines 54-57);

receiving at the same antenna a GPS signal (914) (col. 6, lines 54-57);

propagating a combined signal to a switching module (911), the combined signal including the GPS signal (914) and the wireless communications signal (913) (col. 6, lines 57-61);

switching, via the switching module (911), the combined signal to one of a GPS module (914) and a communication band circuit (913) (col. 6, lines 54-67); and

extracting the GPS signal (914) from the combined signal using the GPS module (914) (col. 6, lines 54-61).

4. Claim 35 is rejected under 35 U.S.C. 102(e) as being unpatentable by Kemmochi et al (20020183016).

Regarding claim 35 Kemmochi teaches a method for receiving incoming signal from at least one of three signal bands on a signal duel band antenna (ANT) of a wireless handheld communications device (fig. 11), comprising the steps of:

separating, via a diplexer, first band (GSM) signal from the incoming signal and coupling the filtered (6) first band signal to a first band diplexer (para. # 0091, 0092);

separation, via the diplexer, at least one of second band signal (DCS) and third band signals (PCS) from the incoming signals and coupling the at least one of the second band signals and the third band to a switching module (4) (para. # 0091, 0092); and

At least one of coupling the second band signals band duplexer and coupling the third band signal to a third band module (para. # 0091, 0092).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-28,30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kemmochi et al (20020183016) and further in view of Camp, Jr. et al (6097974).

7. Regarding claim 1 Kemmochi et al teaches a system for providing a GPS enabled antenna (paragraph 0131, figs. 10,11,15), comprising:

an antenna (ANT, fig.10);

a switching module (switch 4,5) coupled to the antenna (ANT) (paragraphs # 0089,0093, figs. 10,11);

a system module (fig.15, terminal 502, 503) coupled to the switching module (switch 509) (para. # 0089,009); and

wherein the switching module (switch 509) is adapted to selectively couple a signal feed from the antenna (ANT) to one of the module and communication band circuitry (paragraphs # 0089,0093, fig. 15, switch 509, terminal 502, 503).

an impedance matching circuit in the module constructed to match impedance at approximately a signal frequency (paragraphs 0078-0080,0111). Kemmochi et al teaches that other combination such as GPS, D-AMPs, TD-SCDMA can be used instead of DCS, PCS, GSM (paragraph # 0131).

Kemmochi et al does not specifically teach GPS.

In an analogous art, Camp, Jr. et al teaches wherein the switching module (911) is adapted to selectively couple a signal feed from the antenna (910) to one of the GPS module (914) and communication band circuitry (913). Camp, Jr. et al also teaches the system has a Global Positioning System RF receiver which receives GPS signals at a predetermined chip frequency (col. 6, lines 55-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Kemmochi et al by specifically adding feature of GPS module to provide for shared Intermediate Frequency section which is responsive to both the GPS RF receiver and to the wide bandwidth radiotelephone RF receiver in order to enhance system performance by increasing efficiency of multi-band frequency signals as taught by Camp, Jr. et al.

Regarding claim 2 Kemmochi et al teaches a diplexer (103) coupled between the antenna (ANT) and the switching module (102), wherein the antenna is constructed as a dual-band antenna (paragraphs # 0045).

Regarding claim 3 Kemmochi et al teaches wherein the diplexer is adapted to couple first band signals to a first band duplexer and second band signals to a second band duplexer (paragraphs # 0089,0093, 0045).

Regarding claim 4 Kemmochi et al teaches wherein the second band signals are cellular band signals (paragraph # 0089).

Regarding claim 5 Kemmochi et al teaches wherein the second band signals are band signals at approximately 800 MHz (paragraph # 0089,0093).

Regarding claim 6 Kemmochi et al teaches wherein the first band signals are personal communications service band signals (paragraph # 0089,0093).

Regarding claim 7 Kemmochi et al teaches wherein the first band signals are band signals at approximately 1900 MHz (paragraph # 0089,0093).

Regarding claim 8 Kemmochi et al teaches wherein the GPS module includes GPS low noise amplifier (paragraphs 0078-0080,0111).

Regarding claim 9 Kemmochi et al teaches wherein the impedance matching circuit is adapted to provide tuning for GPS band (paragraphs 0078-0080,0111).

Regarding claim 10 Kemmochi et al teaches wherein the module includes the impedance matching circuit and a lows noise amplifier (paragraphs 0078-0080,0111).

Regarding claim 11 Kemmochi et al teaches wherein the switching module includes a two-way switch (figs. 10,11, switch 4-6).

Regarding claim 12 Kemmochi et al teaches where the communication band circuitry is coupled to a first port of the two-way switch (figs. 10,11, switch 4-6).

Regarding claim 13 Kemmochi et al teaches wherein the switching module includes a three-way switch (paragraph # 0089,0093, figs. 10,11,15).

Regarding claim 14 Kemmochi et al teaches wherein the switching module includes a three-way switch, first port of GPS (paragraph # 0089,0093, fig.15 switches 504,509).

Regarding claim 15 Kemmochi teaches a wireless communications device (mobile station), comprising (figs. 10,11):

an antenna (ANT);

a diplexer (103) coupled to the antenna (ANT);

a switching module (switches 509) coupled to the diplexer (103) (paragraph # 0089);

a system module (replace DCS see paragraph 0131, figs. 10,11);

and

a personal communications service band duplexer (paragraph # 0089)

wherein the switching module (switch 4) is adapted to selectively couple the diplexer (103) to one of the module and the PCS (503) band duplexer (paragraph # 0089,0093). Kemmochi et al teaches that other combination such as GPS, D-AMPs, TD-SCDMA can be used instead of DCS, PCS, GSM (paragraph # 0131). Kemmochi et al does not specifically teach GPS.

In an analogous art, Camp, Jr. et al teaches wherein the switching module (911) is adapted to selectively couple a signal feed from the antenna (910) to one of the GPS module (914) and communication band circuitry (913). Camp, Jr. et al also teaches the

system has a Global Positioning System RF receiver which receives GPS signals at a predetermined chip frequency (col. 6, lines 55-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Kemmochi et al by specifically adding feature GPS module to provide for shared Intermediate Frequency section is responsive to both the GPS RF receiver and to the wide bandwidth radiotelephone RF receiver in order to enhance system performance increasing efficiency of multi-band frequency signals as taught by Camp, Jr. et al.

Regarding claim 16 Kemmochi teaches a cellular band duplexer coupled to the diplexer (paragraphs # 0089,0093, 0045).

Regarding claim 17 Kemmochi teaches wherein the diplexer is adapted to couple cellular band signal (paragraphs # 0089,0093, 0045).

Regarding claim 18 Kemmochi teaches wherein the diplexer is adapted to couple PCS band to the switch module (paragraphs # 0089,0093, 0045).

Regarding claim 19 Kemmochi teaches wherein the diplexer is adapted to couple GPS band signal to switching module with attenuation (paragraphs # 0089,0093, 0045).

Regarding claim 20 Kemmochi teaches wherein the attenuation is approximately –0.3 db (paragraphs # 0089,0093, 0045).

Regarding claim 21 Kemmochi et al teaches wherein the module includes the impedance matching circuit and impedance matching module being coupled to the switching module (paragraphs 0078-0080,0111).

Regarding claim 22 Kemmochi et al teaches wherein the module includes the impedance matching module is adapted to provide tuning at approximately the band (paragraphs 0078-0080,0111).

Regarding claim 23 Kemmochi et al teaches wherein the module includes the impedance matching module is adapted to provide tuning at approximately the band includes low noise amplifier (paragraphs 0078-0080,0111).

Regarding claim 24 Kemmochi teaches wherein the diplexer includes a high pass frequency response with a cutoff frequency at approximately 1600 MHz (paragraph # 0089,0091).

Regarding claim 25 Kemmochi teaches wherein the diplexer includes a high pass frequency response with a cutoff frequency at approximately 1400 MHz (paragraph # 0089,0091).

Regarding claim 26 Kemmochi teaches wherein the diplexer provides band signals to the switching module with less attenuation than if the diplexer included the high pass frequency response with the cutoff frequency at approximately 1600 MHz (paragraph # 0089,0093,0131).

Regarding claim 27 Kemmochi teaches wherein the diplexer includes a high pass frequency response with a cutoff frequency designed to reduce attenuation of the band signals (paragraph # 0089,0093,0131).

Regarding claim 28 Kemmochi teaches wherein the diplexer includes a high pass frequency response with a reduce attenuation designed to reduce attenuation of the band signals (paragraph # 0089,0093,0131).

Regarding claim 30 Kemmochi teaches matching an impedance at approximately the frequency of the signal (paragraphs 0078-0080,0111).

Regarding claim 31 Kemmochi teaches includes the step of lowering a cutoff frequency of a high pass frequency response in the diplexer to reduce attenuation of the signal (paragraphs 0078-0080,0111).

Regarding claim 32 Kemmochi teaches a method for providing a system-enabled antenna, comprising the steps of:

receiving a wireless communications signal from at least one communications band (paragraph # 0011, 0019);

coupling, via a triplexer (triple-band, high-frequency module, fig. 15, element 103, para. # 0010), band signals of the wireless communications signal to a module (paragraph # 0011, 0019);

coupling, via the triplexer (triple-band, high-frequency module, fig. 15, element 103, para. # 0010), first band signals of the wireless communications signal to the first band duplexer (paragraph # 0011, 0019); and

coupling, via the triplexer (triple-band, high-frequency module, fig. 15, element 103, para. # 0010), second band signals of the wireless communications signal to the second band duplexer (paragraph # 0011, 0019). Kemmochi et al teaches that other combination such as GPS, D-AMPs, TD-SCDMA can be used instead of DCS, PCS, GSM (paragraph # 0131). Kemmochi et al does not specifically teach GPS. In an analogous art, Camp, Jr. et al teaches wherein the switching module (911) is adapted to selectively couple a signal feed from the antenna (910) to one of the GPS module

(914) and communication band circuitry (913). Camp, Jr. et al also teaches the system has a Global Positioning System RF receiver which receives GPS signals at a predetermined chip frequency (col. 6, lines 55-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Kemmochi et al by specifically adding feature GPS module to provide for shared Intermediate Frequency section is responsive to both the GPS RF receiver and to the wide bandwidth radiotelephone RF receiver in order to enhance system by increasing efficiency of multi-band frequency signals as taught by Camp, Jr. et al.

Regarding claim 33 Kemmochi teaches via the triplexer personal communication service signals of the wireless communication signal to the PCS band (fig. 15, element 503).

Regarding claim 34 Kemmochi teaches via the triplexer cellular band signals of the wireless communication signal to the cellular band duplexer (fig. 15, element 503 GSM).

Response to Arguments

8. Applicant's arguments with respect to claims 1-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAWAR IQBAL whose telephone number is 703-306-3015.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **BANKS-HAROLD, MARSHA**, can be reached at 703-305-4379.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2684 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Khawar Iqbal

CHARLES APPIAH
PRIMARY EXAMINER